

than the intermediate portion and having a fluid impervious wall, which balloon member is for use with a catheter for radially expanding a vessel in the body of a mammal, which catheter comprises a tube portion with a passage therethrough and which is adapted to have the hollow expandable balloon member secured to the tube portion by the smaller diameter terminal portions, whereby the balloon member can be inflated and deflated by means of a fluid passed through the passage of the catheter wherein:

a. the wall of the balloon member has a substantially uniform thickness and is formed from a flexible substantially fluid impervious material having reinforcing fibres provided integrally with the wall material, which fibres act to limit the maximum radial expansion of the balloon member; and

b. the intermediate portion of the balloon member is preformed with a radial diameter which corresponds substantially to that of the balloon member at a maximum unstretched radially expanded state, whereby the balloon member can be inflated to its maximum radial expansion state as limited by the fibres within the wall material without causing substantial stretching the wall material.

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17. (New) A balloon member as claimed in claim 16, wherein the reinforcing fibres are provided by a polymer or metal mesh.

18. (New) A balloon member as claimed in claim 16, wherein the reinforcing fibres are made from or contain a material having shape memory properties.

19. (New) A balloon member as claimed in claim 16, wherein the reinforcing fibres are provided as a braid of filaments of a metal or polymeric material.

20. (New) A balloon member as claimed in claim 16, wherein the reinforcing fibres are filaments of a polyester polymer.

21. (New) A balloon member as claimed in claim 19, wherein the braid is in the form of two opposed helices of filaments.

22. (New) A balloon member as claimed in claim 21, wherein the braid has a critical angle and the opposed helices are oriented to one another at or adjacent to said critical angle of the braid.

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23. (New) A balloon member as claimed in claim 16, wherein the reinforcing fibres limit the maximum radial expansion of the intermediate portion of the balloon member to not more than 115% of its maximum unstretched radially expanded state.

24. (New) A balloon member as claimed in claim 16, wherein the flexible wall material is a polyurethane.

25. (New) A balloon catheter for radially expanding a vessel in the body of a mammal, which catheter comprises a tube portion with a passage therethrough and a hollow expandable balloon portion defined by a fluid impervious wall and secured to the

tube portion, which balloon portion can be inflated and deflated by means of a fluid passed through the passage, wherein the hollow expandable balloon portion is a hollow expandable balloon member comprising an intermediate portion located between terminal portions which have a diameter smaller than the intermediate portion and having a fluid impervious wall, which catheter comprises a tube portion with a passage therethrough and which is adapted to have the hollow expandable balloon member secured to the tube portion by the smaller diameter terminal portions, whereby the balloon member can be inflated and deflated by means of a fluid passed through the passage of the catheter, wherein:

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- a. the wall of the balloon member has a substantially uniform thickness and is formed from a flexible substantially fluid impervious material having reinforcing fibres provided integrally with the wall material, which fibres act to limit the maximum radial expansion of the balloon member; and
- b. the intermediate portion of the balloon member is preformed with a radial diameter which corresponds substantially to that of the balloon member at a maximum unstretched radially expanded state, whereby the balloon member can be inflated to its maximum radial expansion state as limited by the fibres within the wall material without causing substantial stretching the wall material.